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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/741,684      | 12/18/2000  | Xm Wong              | 2855/29             | 6553             |

7590 11/14/2006  
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EXAMINER

MILLER, BRIAN E

ART UNIT PAPER NUMBER

2627

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/741,684             | WONG ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Brian E. Miller        | 2627                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 8/25/06.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Claims 19-30 are now pending.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 19-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (a) claim 19, last 3 lines, the language “wherein the slider bonding pad enable the reuse...with heat treatment.” renders the claim indefinite. It is not readily apparent what structure of the slider bonding pad permits this to occur, making the claim(s) essentially incomplete; (b) claim 25, last 2 lines the phrase “a slider connection circuit” lacks proper antecedent basis, as it has not been previously recited in the claim, and there is no structural cooperation with other elements of the claim.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 102***

4. Claims 19-23, 25-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Albrecht et al (US 5,821,494). Albrecht et al discloses a suspension as shown in at least FIG. 3, and FIGs. 12A-12C) which includes: a suspension 44 with a metal suspension bonding pad 64 for bonding to a magnetic head terminal with a slider bonding pad 62, which includes a bonding substance

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122/60 which is a conductive adhesive solder film polymer (see col. 11, lines 16-25), applied as a surface finishing material, which material is heat treated "prior to bonding to a surface" (see col. 10, lines 50-53 & FIG. 10B). Additionally, as shown in FIG. 12A the slider bonding pad 62 is "initially without bonding substance" and subsequently is electrically bonded to a suspension bonding pad 64 when the bonding substance 60 is reflowed (see FIG. 12C and col. 10, lines 35-53).

The following limitations are addressed in so far as they are definite and understood with respect to the 112 (2) paragraph rejections, set forth above. With respect to claim 19 and the language (last 3 lines, i.e., wherein the slider bonding pad...with heat treatment," it is understood and well known in the art, that heat treatment will allow a solder connection to melt and permit disconnection of an electrical connection. With respect to claim 25, Albrecht et al discloses "several bonding bumps" 60, as shown in FIG. 4.

5. Claims 19-23, 25-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Ainslie et al (US 4,761,699). Ainslie et al discloses a suspension, as shown in FIGs. 4 & 5, including a slider 16 and a suspension 40; a suspension bonding pad 47/63 for electrically bonding to a magnetic head terminal, e.g., a slider bonding pad 41. Additionally, as shown in FIG. 4, the slider bonding pad is initially without bonding substance, such that as in FIG. 6, the suspension bonding pad 47 and slider bonding pad(s) 41, 70 are electrically coupled to each other when the bonding substance is reflowed; further the bonding substance includes solder 80, 82 and a conductive adhesion film 74, 76, applied as a surface finishing material, which material is heat treated "prior to bonding to a surface" (see col. 7, lines 15-16).

The following limitations are addressed in so far as they are definite and understood with respect to the 112 (2) paragraph rejections, set forth above. With respect to claim 19 and the language (last 3 lines, i.e., wherein the slider bonding pad...with heat treatment,” it is understood and well known in the art, that heat treatment will allow a solder connection to melt and permit disconnection of an electrical connection. With respect to claim 25, Ainslie et al discloses “several bonding bumps” 86, as shown in FIG. 2.

***Claim Rejections - 35 USC § 103***

6. Claims 24, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Albrecht et al or Ainslie et al. Albrecht et al or Ainslie et al are silent as to the dimensions, i.e., height and diameter, of the solder bump, however, Albrecht does teach the slider pads to be no larger than 120 um (see col. 11, lines 19-20) which size slider pad would presumably encompass a solder bump having a diameter equal to or approximate to that dimension. Taking this and the knowledge of a skilled artisan into consideration, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided solder bumps within the claimed dimensions to the respective teachings of Albrecht et al or Ainslie et al. The motivation would have been: lacking any unobvious or unexpected results, the particular solder bump height and diameter would have been provided through routine experimentation and optimization so as to optimize the electrical connection with minimal height usage, which would have been realized by a skilled artisan.

***Response to Amendment***

7. Applicant's comment(s) filed 8/25/06 have been fully considered but they are not persuasive.

A...Applicants assert with respect to Albrecht and claim 19, that “it does not describe at least a feature wherein the slider bonding pad enables the reuse of the suspension by removing the connection between a slider and the slider bonding pad with heat treatment.”

This is found unpersuasive because the Examiner has addressed this limitation and it is maintained that, in so far as it positively sets forth a further structural limitation of the slider/slider bonding pad, is met by Albrecht. The claimed “heat treatment” is considered to be a manufacturing process limitation and/or a disassembly step in a product by process claim. A “product by process” claim is directed to the product per se, no matter how actually made; see *In re Hirao*, 190 USPQ 15 at 17 (footnote 3, CCPA 1976); *In re Brown*, 173 USPQ 685 (CCPA 1972); *In re Luck*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); *In re Thorpe*, 227 USPQ 964 (CAFC 1985). The patentability of the Final product in a “product by process” claim must be determined by the product itself and not the actual process and an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not. Accordingly, the weight given to the “product by process” limitation is the structure “gleaned” from the process. In this situation, besides a remelting of the previously hardened “bonding substance,” which is evident and encompassed by Albrecht (and Ainslie), there is no structural difference between the claims and the prior art relied upon.

B...Applicant further submits “the cited references do not teach, suggest or describe at least ‘[a] suspension comprising... wherein bonding substance of the suspension further comprises several

bonding bumps for bonding the suspension and the slider connection circuit' (e.g., as described in amended claim 25)."

Again, this argument is not persuasive. As set forth in the respective rejections, *supra*, Albrecht discloses "several bonding bumps" 60 as shown in FIG. 4; while Ainslie discloses the same, elements 86 in FIG. 2.

C...The "argument" on page 7 of the "Remarks" regarding the 103 rejection appears to be misdirected and not understood.

D...The amendment/argument with respect to the 112 (2<sup>nd</sup> paragraph) rejection has not addressed the incompleteness of the claim(s).

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Miller whose telephone number is (571) 272-7578. The examiner can normally be reached on M-TH 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Brian E. Miller**  
**Primary Examiner**  
**Art Unit 2627**

BEM  
November 6, 2006